

## **REMARKS**

Claims 26, 28, 30, 31, 33, 35, 36, 38, 40, 41, 43-45, 47, 48, 50, 51, 54-58, 61-64, 67-71, and 74-77 are pending in the application with claims 26, 31, 38, 40, 41, 43, 47, 56, 63, 67, 70, 74, and 77 amended herein and claims 29, 32, 34, 37, 39, 42, 46, 49, 52, 53, 59, 60, 65, 66, 72, 73, and 78 cancelled herein. All of the amendments to claims made herein are supported by the subject matter of the previously pending claims.

Claims 26, 28-78 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuzumi et al., U.S. Patent No. 6,222,722, and in view of Ritala et al., "Perfectly conformal TiN and Al<sub>2</sub>O<sub>3</sub> Films Deposited by Atomic Layer Deposition". Applicant requests reconsideration.

Amended claim 26 sets forth a capacitor construction that includes, among other features, a dielectric layer on and in physical contact with an atomic layer deposited conductive barrier layer to oxygen diffusion, the barrier layer containing WN and being on and in physical contact with a first capacitor electrode. Pages 3-5 of the Office Action allege that Fukuzumi discloses every limitation of claim 26 except for the atomic layer deposited barrier layer and relies upon Ritala as allegedly disclosing such limitation. However, Ritala fails to disclose or suggest and is not alleged to disclose or suggest an atomic layer deposited conductive barrier layer containing WN. At least for such reason, Fukuzumi in view of Ritala fails to disclose or suggest every limitation of amended claim 26. Claims 28, 30, 35, 50, 51, 54, 55, and 56 depend from claim 26 and are patentable at least for such reason as well

as for the additional limitations of such claims not disclosed or suggested. For example, claim 28 sets forth that the capacitor construction further includes another conductive barrier layer to oxygen diffusion over the dielectric layer. Neither Fukuzumi nor Ritala disclose or suggest the subject matter of claim 28.

Amended claim 31 sets forth a capacitor construction that includes, among other features, a conductive barrier layer to oxygen diffusion on and in physical contact with a first capacitor electrode, the barrier layer containing WN as a chemisorption product, and a capacitor dielectric layer on and in physical contact with the barrier layer. As may be appreciated from the discussion above regarding the deficiencies of Fukuzumi in view of Ritala as applied to claim 26, the cited combination of references also fails to disclose or suggest every limitation of amended claim 31. Claims 33, 36, 57, 58, 61, 62, and 63 depend from claim 31 and are patentable at least for such reason as well as for the additional limitations of such claims not suggested.

Amended claim 38 sets forth a capacitor construction that includes, among other features, a first atomic layer deposited metal-containing conductive layer as a barrier to oxygen diffusion between and in physical contact with both a first capacitor electrode and a dielectric layer. The construction includes a second atomic layer deposited metal-containing conductive layer as a barrier to oxygen diffusion between the dielectric layer and a second capacitor electrode. As may be appreciated from the discussion above regarding the deficiencies of Fukuzumi in view of Ritala as


applied to claim 28, the cited combination fails to disclose or suggest the two barrier layers in claim 38. Claims 40, 41, 64, 67, 68, 69, and 70 depend from claim 38 and are patentable at least for such reason as well as for the additional limitations of such claims not disclosed or suggested.

Amended claim 43 sets forth a capacitor construction that includes, among other features, a first layer of a metal-containing conductive material as a barrier layer to oxygen diffusion on and in physical contact with a first capacitor electrode. The construction includes a capacitor dielectric layer containing oxygen on and in physical contact with the first conductive layer and, over the dielectric layer, a second layer of metal-containing conductive material as a barrier layer to oxygen diffusion. As may be appreciated from the discussion above regarding the deficiencies of Fukuzumi in view of Ritala as applied to claim 28, the cited combination fails to disclose or suggest the two barrier layers of claim 43. Claims 44, 45, 47, 48, 71, and 74-77 depend from claim 43 and are patentable at least for such reason as well as for the additional limitations of such claims not disclosed or suggested.

Applicant herein establishes adequate reasons supporting patentability of claims 26, 28, 30, 31, 33, 35, 36, 38, 40, 41, 43-45, 47, 48, 50, 51, 54-58, 61-64, 67-71, and 74-77 and requests allowance of all such pending claims in the next Office Action.

Respectfully submitted,

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